WHAT IS CLAIMED IS:

1. A system for implementing a backoff protocol, comprising:

a client subsystem that generates a request for access to a
shared resource; and

a server subsystem that receives said request, returns a LOCKED
indicator upon an expectation that said shared resource is
unavailable and otherwise returns a FREE indicator, said client
subsystem responding to said LOCKED indicator by waiting before
regenerating said request for said access.

2. The system as recited in Claim 1 wherein said server
subsystem has said expectation when said server subsystem returned
said FREE indicator more than $\Delta + 2\delta$ time units previously.

3. The system as recited in Claim 1 wherein said server
subsystem is replicated among a plurality of separate servers.

4. The system as recited in Claim 1 wherein said system is
coupled to a synchronous computer network.

5. The system as recited in Claim 1 wherein a unique rank is
associated with said request.

6. The system as recited in Claim 1 wherein said shared resource is an Ethernet channel.

7. The system as recited in Claim 1 wherein said client subsystem digitally signs said request.

8.   A method of implementing a backoff protocol, comprising:

generating a request to a server subsystem for access to a shared resource;

returning a LOCKED indicator upon an expectation that said shared resource is unavailable;

otherwise returning a FREE indicator; and

responding to said LOCKED indicator by waiting before regenerating said request for said access.

9.   The method as recited in Claim 8 wherein said server subsystem has said expectation when said server subsystem returned said FREE indicator more than $\Delta + 2\delta$ time units previously.

10.   The method as recited in Claim 8 wherein said method is carried out in a synchronous computer network.

11.   The method as recited in Claim 8 wherein a unique rank is associated with said request.

12.   The method as recited in Claim 8 wherein said shared resource is an Ethernet channel.

13.   The method as recited in Claim 8 further comprising digitally signing said request.

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14. A computer network, comprising:

a plurality of clients;

a plurality of servers coupled to said plurality of clients;

at least one shared resource coupled to said plurality of servers;

a system for implementing a backoff protocol with respect to said at least one shared resource, including:

a client that generates a request for access to a shared resource, and

a server that receives said request, returns a LOCKED indicator upon an expectation that said shared resource is unavailable and otherwise returns a FREE indicator, said client responding to said LOCKED indicator by waiting before regenerating said request for said access.

15. The computer network as recited in Claim 14 wherein said server subsystem has said expectation when said server subsystem returned said FREE indicator more than $\Delta + 2\delta$ time units previously.

16. The computer network as recited in Claim 14 wherein said computer network is synchronous.

17. The computer network as recited in Claim 14 wherein a unique rank is associated with said request.

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18.	The computer network as recited in Claim 14 wherein said
2	one of said at least one shared resource is an Ethernet channel.

19.	The computer network as recited in Claim 14 wherein said
2	client subsystem digitally signs said request.